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CONTENTS

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CANNED FOOD IN INFANT NUTRITION

II. Strained Foods

● During the first few months of life, breast milk or modified cow's milk, properly supplemented, is the major article of food in the infant dietary. In later infancy and early childhood, however, it is desirable that other foods be included to supply the increasing demand for food essentials in which the milk diet is inherently deficient.

Modern practices in infant nutrition, while similar in broad aspect, may differ in detail. The first addition to the supplement milk diet is usually that of cereals or cereal broths. Later, strained vegetables and fruits, valued for their contributions of iron and cellulose materials, are included. Finally, other foods, such as egg yolk, broths and soups, are added to the dietary at the discretion of the physician.

Especially designed and well suited for use in this phase of infant nutrition are the canned strained foods. Manufacturers of such products are mindful of the fact that the highest possible standards as to quality and food values must be maintained—that endorsement or acceptance of these products by the profession can be obtained only after actual trial. Consequently, precautions are taken in the commercial procedures to retain in as high degree as possible the quality characteristics and nutritive values of the raw products used.

Only selected materials at the proper degree of maturity enter into the manufacture of commercially strained foods. Within a few hours of harvesting, the raw products are subjected to preparatory operations such as cleansing, peeling or trimming. After preliminary heat treatments, the materials are strained through screens whose interstices are measured in the thousandths of an inch; filled into cans and the cans sealed, heat processed and cooled.

In the canning procedure a number of factors are favorable to the retention of certain fugitive food values. Among these may be included the use of selected, properly matured raw stock; the rapid handling of the harvested crop; the use of steam or a limited amount of water in preliminary cooking operations; the exclusion of air during pre-cooking and straining; the straining of the foods in the liquid in which they were cooked; and the heat processing in sealed containers from which most of the atmospheric oxygen has been removed.

Research has demonstrated that these factors operate effectively in the retention in high degree of food values in the canned strained products (1). Consequently, commercially strained foods or food combinations—readily available on every market—deserve a high place among foods adapted to infant and child feeding, not only from the st[illegible]points of economy and convenience, but b[illegible]tue of their nutritive values as well.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) Journal Nutrition 8, 449 (1934)
Journal American Dietetic Association 9, 295 (1933)
Journal Pediatrics 6, 749 (1932)

This is the sixth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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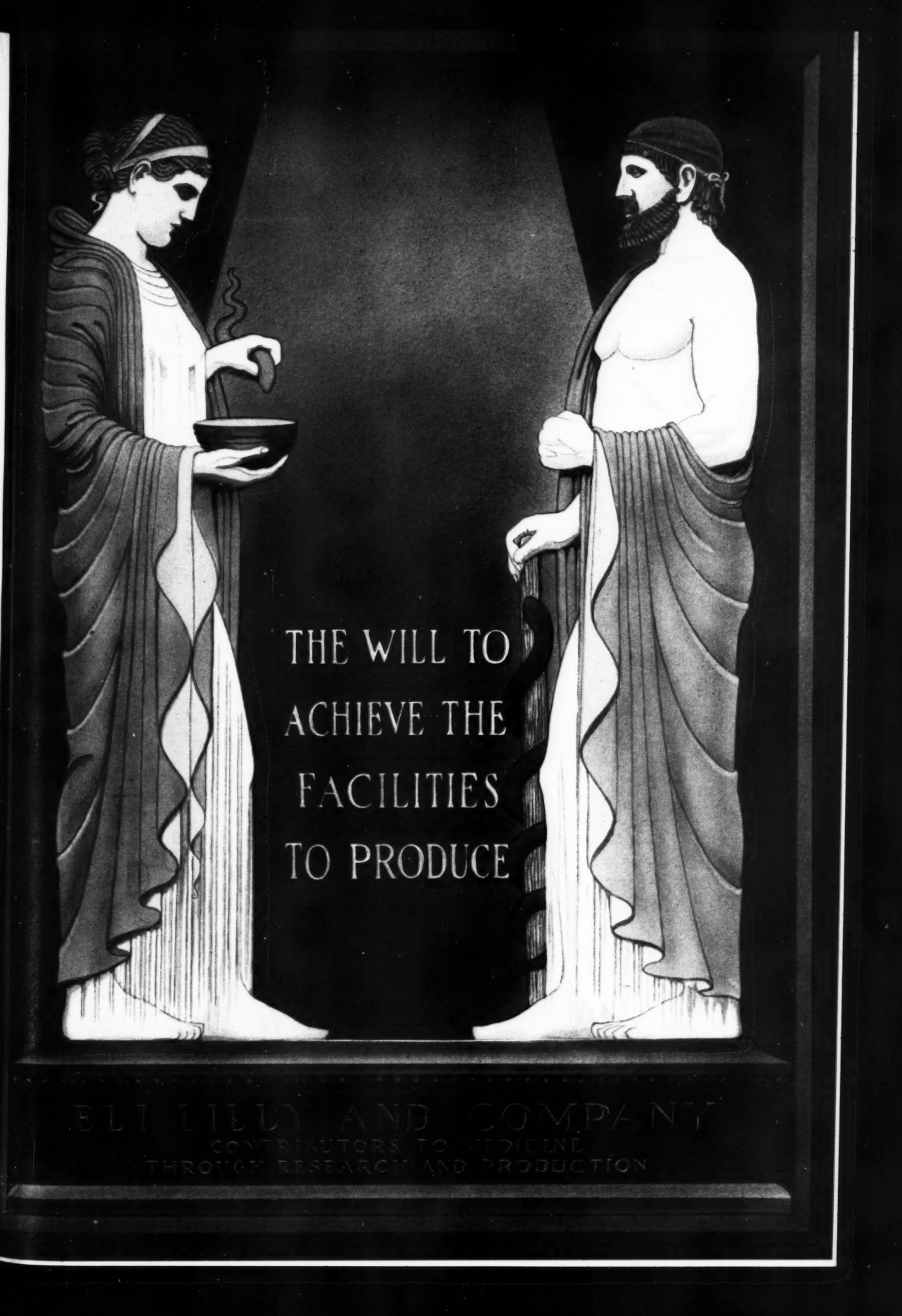
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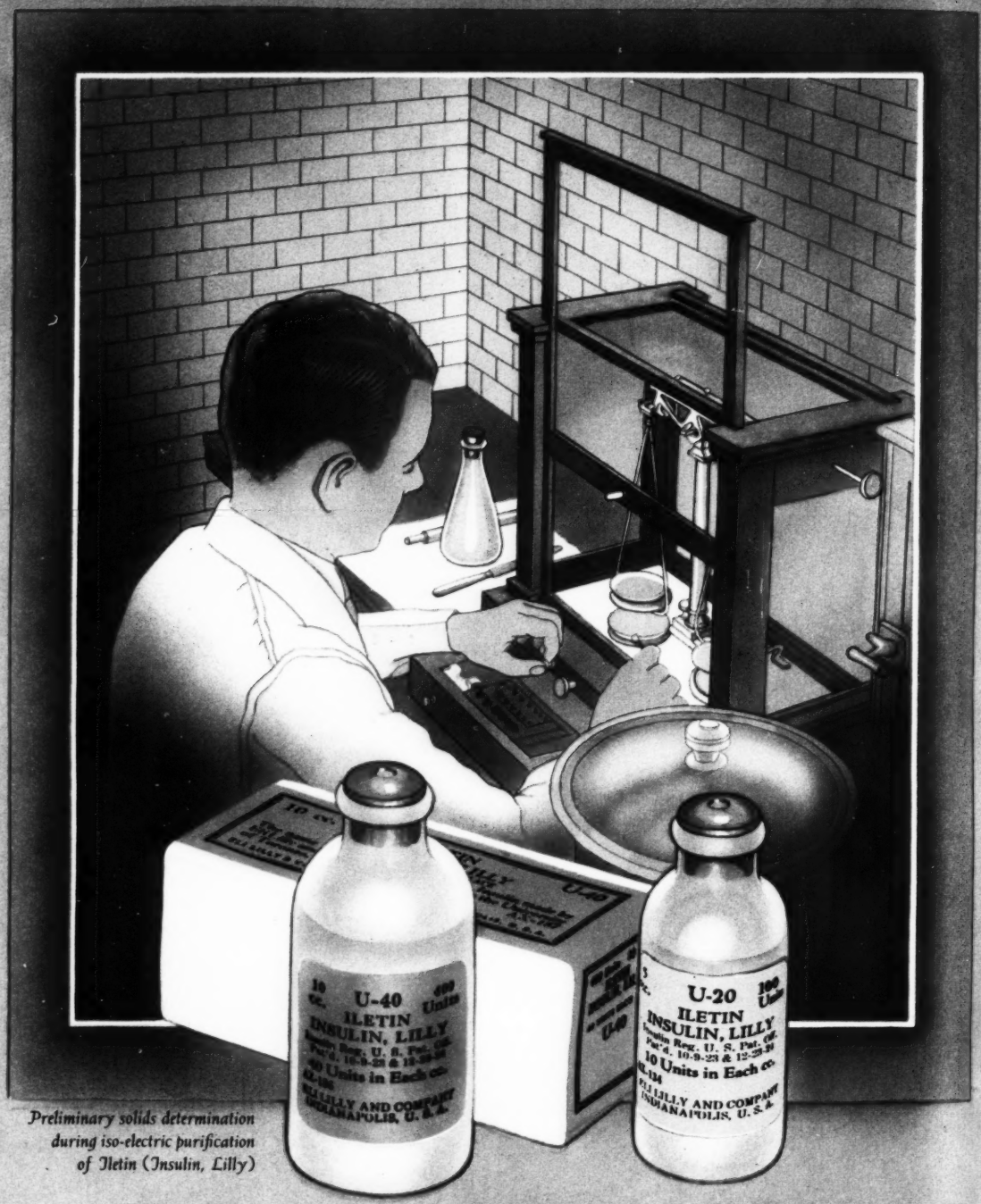

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SPECIFIC ANTI-SERUM IN THE TREATMENT OF TULAREMIA

Two Unusual Cases Treated Successfully With Commercial Anti-Serum

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Wilmington, Del.

Wherry and Lamb[1] in 1914 first reported infection of man with bacterium tularense and showed that the most common source of such infection in this country is the wild rabbit. Tularemia may also be contracted from other rodents and possibly also through the medium of such insects as the tick. The Middle West, Texas and Virginia have a particularly high incidence of infection. The first case reported in Delaware was by Dr. C. L. Hudiburg in 1931. This was a mild case which recovered promptly and was not published. The two cases here reported bring the Delaware total to three and so far as can be ascertained are the first ever to be treated with a commercially prepared specific antiserum. Foshay[2], [3] first prepared an antiserum from goats and more recently from horses. The serum used in the present report was prepared by Sharp and Dohme by immunizing a horse according to the method of and in collaboration with Foshay. The latter reported 15 serum-treated cases in 1933 and 69 in 1934. Since then the total treated by him has risen to 240. The mortality rate of this disease is only about 5-7%, but the average time of incapacity from the prolonged fever, abscesses, pulmonary and other complications is four and one-fourth months. Even the milder cases without late recurring abscesses take a number of weeks before returning to their occupation. The serum treatment shortens this time of incapacity by 50%, greatly reduces the amount of suffering, rapidly heals the ulcerated lesions and also seems to prevent late tularemic sepsis, which is the usual cause of death.

CASE 1

C. S. Ulcero-glandular type. Male. Age 21. Family history and past history unimportant. Rheumatic fever five years previously.

Present Illness:

11/15/34. Rescued a rabbit from a dog while hunting and noticed sores behind the rabbit's ears. Previously had had an open abrasion on the index finger of right hand.

11/18/34. Awakened early in the morning with headache, fever, followed by a chill, severe prostration and delirium.

11/19/34. Patient was admitted to the Delaware Hospital and on examination nothing of importance was found aside from the severe prostration, very slight cyanosis, moderate delirum, some tympanites. White blood count 14,900; 79% P. M. N. Urinalysis was negative. The white count gradually fell to 10,000 without change in hemoglobin or erythrocytes. Temperature ranged from 100 to 103.

11/23/34. The abrasion on the index finger of the right hand which had been present for ten days before the exposure to the rabbit became very sore and indurated in the manner characteristic of tularemia. Lymphangitis followed with tender, swollen and palpably enlarged axillary lymph nodes on the left side.

11/27/34. The patient was generally improved. Temperature lower. History of rabbit contact was obtained for the first time. Blood serum on this date gave positive agglutination with B. tularense in a titer 1:10. This was the 7th day of the disease.

12/7/34. The 17th day of disease. Blood serum gave positive agglutination for B. tularense in a titer 1:640.

12/8/34. Patient's general condition was greatly improved. The temperature which had been staying between 99 and 100 now arose to 103, with an increase in the size of the axillary nodes and the appearance of several firm knots along the lymph channel of the upper right arm. 15 cc of anti-tularemic serum (Sharp and Dohme) was given intravenously.

12/9/34. 15 cc of serum was again given. X-ray of the chest was negative.

12/11/34. Temperature became normal and remained so thereafter. A rapid convalescence followed.

12/17/34. An abscess on one of the lymph channel knots of the upper right arm was opened. Prompt healing followed and the patient remained well thereafter.

COMMENT

In Case 1 no serum was available until the 18th day. At this time the temperature was rising and local signs of beginning suppuration in the right axilla were marked. The prompt subsidence of fever and the rapid healing of the skin lesions following the serum are convincing proof of its effectiveness. An abscess of a lymph nodule into which ran a cord-like lymph channel, with many "knots" was opened one week after discharge from the hospital and healed promptly. This patient was well six weeks after the onset of illness.

CASE 2

C. H. S. Tularemic pneumonia. Age 58. A Magistrate. Father of Case 1. Family history and past history unimportant except that a benign papilloma was removed from beneath the tongue in 1929.

Present Illness:

11/15/34. Skinned a rabbit which had been previously handled by son.

11/22/34. Sudden onset of chill, followed by fever. Extreme prostration and mild delirum. Patient still has no recollection of anything occurring for three weeks following this initial chill.

11/29/34. Patient was admitted to the Delaware Hospital, where examination revealed a few fine rales at both bases posteriorly; slight dullness; diminished breath sounds over part of the right lower lobe posteriorly. The cough was severe but there was no marked dyspnea. Several ulcers appeared beneath the tongue and inside the lower lip. One in particular seemed deeper than the others and became markedly indurated. There were upper and lower dentures. No skin lesions appeared except those of a long standing psoriasis.

12/4/34. Temperature continued irregularly to 105. Respiration 24. Physical signs in chest unchanged. A roentgenogram revealed evidence of broncho-pneumonia on both sides (Figure 1), W. B. C. 10,000-18,000, with about 76% P. M. N. Smear from the mouth was negative for Vincent's organisms. Urinalyses were consistently negative except for a trace of albumin and a few hyaline casts. Hemoglobin 78% (Dare). R. B. C. 4, 30,000. Blood culture was negative. Blood serum gave complete agglutination of B. tularense 1:80 on the 12th day of disease.

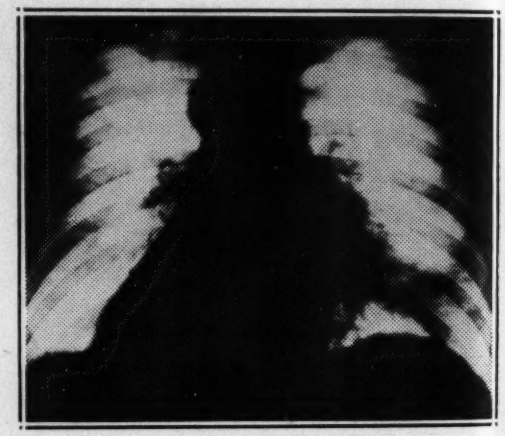

FIGURE I—Roentgenogram of chest in Case 2, made with bedside unit, showing tularemic infiltration in both lungs, more marked on the right side.

12/6/34. 10 cc. of anti-tularemic serum (Sharp & Dohme) prepared by the method of Foshay was given intravenously. No serum was obtainable sooner.

12/7/34. 15 cc. of anti-tularemic serum was given.

12/8/34. 20 cc. of anti-tularemic serum was given.

12/9/34. 15 cc. of anti-tularemic serum was given.

12/11/34. 15 cc. of anti-tularemic serum was given. There had been no reaction from the serum and also no definite improvement.

12/12/34. A final dose of 15 cc. was given on this date, making a total of 90 cc., which was 24 cc. more than had been given in any previously reported case.

12/16/34. Clinically much improved in spite of continued low fever.

12/20/34. Physical signs on examination of chest were definitely improved. The ulcers beneath the tongue were healed.

1/20/35. The patient had gradually become stronger and on this date was discharged from the hospital.

2/25/35. Continued convalescence at home and returned to work on this date.

4/23/35. Following excessive outdoor physical exercise patient developed pleuritic pains.

5/20/35. During the previous three to four weeks there were several attacks of pleurisy with and without fever.

5/25/35. Fluid aspirated from the left pleural cavity gave an agglutination titer for B. tularense of 1:320.

6/21/35. Through the kindness of Dr. Foshay anti-tularemic goat serum was given intravenously in 15 cc. doses on two consecutive days. This serum was used instead of administering more of the serum prepared from horses in order to avoid any possibility of hypersensitivity due to the previous large dose of the commercial serum. There followed cessation of all symptoms and the patient has remained perfectly well.

COMMENT

It has only been within the last few years that cases have been reported under the term "tularemic pneumonia." The pneumonia in the earlier reported cases was thought to be secondary. Parmer and Maclachlan[4] described in detail the type of pneumonia characteristic of tularemia. It is essentially a thrombosis of small arterioles with resulting necrosis, surrounded by mononuclear cell infiltration. This same type of lesion is found at autopsy in the organs such as the spleen, liver, kidneys, etc. Several other authors have called attention to the serious pulmonary manifestations of this disease. The exact mortality rate of tularemic pneumonia is difficult to determine at present. One of the difficulties lies in accurate diagnosis; another indecision as to whether the pneumonia is the major manifestation in the individual case. For instance, Blackford[5] and his associates[6] have recently emphasized the frequency of lung involvement even in the ulcero-glandular form and suggest chest films in the acute stage of all cases. In an unselected series of 35 cases, chest manifestations were diagnosed clinically in only half; roentgenologically in 90%. Seven of the 35 had pneumonia, and 3 of the 7 died.

Gundry and Warner[7] reviewed 15 autopsied cases, all of which showed sepsis in the sense that the spleen, liver, lung, kidneys or central nervous system were involved. In five pneumonia was not diagnosed clinically yet at autopsy it was found in all except two, in one of which the autopsy was incomplete and definite signs of pneumonia had been found clinically. Parmer and Maclachlan[4] found that 36% of all cases showed evidence of pneumonia clinically or at autopsy and that pneumonia is found in 62.5% of autopsied cases. Francis[8], on the other hand, from cases reported in the literature and from questionnaires on individual cases sent out by him through the U. S. Public Health Service, estimates pulmonary involvement in only 13% of all deaths. Foshay[9] has found clinical pneumonia in 17% of all cases. In Kavanaugh's[10] carefully analyzed 123 cases, 16 had definite pulmonic tularemia, with a mortality rate of 25% without serum treatment. Certainly, then, many, if not the majority of patients with this type of pneumonia, recover without serum. Certainly, too, in those cases, particularly elderly individuals with pneumonia as the predominating manifestation of the disease, the prognosis is more grave than in any other manifestation except tularemic sepsis. Bowman and Bianco[11] reported a case of severe pneumonia which recovered without specific treatment after a long illness of six months. In Foshay's[9] latest report out of 32 patients with clinical tularemia, all receiving anti-serum, none died.

Case 2 was a severe tularemic pneumonia, the local lesion occurring under the tongue. The clinical improvement in this patient of 58, 6 days after receiving serum (on the 14th day) was marked. Fever continued thereafter, but the patient's general condition improved

very rapidly. He was able to return to work three months after the onset of illness. After remaining well for two months, following excessive physical activity he developed tularemic pleurisy with effusion, which promptly subsided following anti-tularemic goat serum (the latter was available through the kindness of Dr. Foshay to avoid the possibility of sensitization to horse serum) and has remained perfectly well.

SUMMARY

1. The two cases of tularemia here reported, infected from the same rabbit, make a total of three cases reported in Delaware.

2. Both cases were treated with the first specific anti-serum commercially available.

3. Case 1, an ulcero-glandular type, age 21, was treated with 30 cc. of commercial anti-serum (horse), beginning on the 18th day of disease, and the patient was well six weeks after the onset.

4. Case 2, a severe tularemic pneumonia, age 58, treated with 90 cc. of commercial anti-serum (horse), beginning on the 14th day of illness, returned to work within tnree months; had a relapse two months later, which subsided immediately following 30 cc. of goat serum.

5. The prognosis of tularemic pneumonia in the light of present knowledge has been briefly discussed.

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THE RELATIONSHIP OF DENTAL FOCI OF INFECTION TO OCULAR PATHOLOGY

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Ocular symptoms are often observed in the dental office which subside on the removal of infected roots or teeth and the clearing up of any pathological manifestations affecting the mucous membranes or the soft structures of the mouth. There is no doubt therefore, at least in the minds of many of the dental profession, that infected teeth do and will cause ocular pathology.

Let us become didactic for a few minutes and review the neurologic structure of the face, jaws and eyes, and the nerves which are common to them.

The fifth cranial nerve (trigeminal) is the largest cranial nerve and is the great sensory nerve of the head and face, and the motor nerve of the muscles of mastication. The semilunar (Gasserian) ganglion occupies a cavity (Meckel's) in the dura mater covering the trigeminal impression near the apex of the petrous portion of the temporal bone. From its convex border three large nerves proceed: ophthalmic, maxillary, and mandibular.

The ophthalmic and the maxillary consist exclusively of sensory fibres; the mandibular is joined outside the cranium by the motor root.

Associated with the three divisions of the trigeminal are four small ganglia. The ciliary ganglion is connected with the ophthalmic nerve; the spheno-palatine ganglion with the maxillary nerve; and the otic and submaxillary ganglia with the mandibular nerve. All four receive sensory filaments from the trigeminal.

The ophthalmic nerve, or the first division of the trigeminal, is a sensory nerve. It supplies branches to the cornea, ciliary body and iris, to the lacrimal gland and conjunctiva, to a part of the mucous membrane of the nasal cavity, and to the skin of the eyelids, eyebrow, forehead and nose.

The maxillary is the second branch of the trigeminal. It divides into the following branches, of which I will give only the ones that will interest us directly.

(a) The zygomatic enters the orbit by the inferior orbital fissure and has two branches: the zygomaticofacial, which perforates the orbicularis oculi and joins the facial nerve and with the inferior palpebral branches of the maxillary; and the zygomaticotemporal which joins with the lacrimal, and in turn gives off a slender twig which runs to the lateral angle of the orbit.

(b) The posterior superior alveolar, to the teeth.

(c) The middle superior alveolar, to the teeth.

(d) The anterior superior alveolar, to the teeth.

(e) The inferior palpebral supplies the skin and the conjunctiva of the lower eyelid, joining at the lateral angle of the orbit with the facial and the zygomaticofacial nerves.

The mandibular is the third branch of the trigeminal. It supplies the teeth and gums of the mandible.

One can readily see then, that the nerves supplying the face, jaws, teeth and eyes are intimately connected and inosculate freely.

It is quite plain from a brief perusal of the above, that pains referred to various branches of the trigeminal nerve are of very frequent occurrence and should always lead to a careful examination in order to discover a local cause. As a general rule the diffusion of pain over the various branches of the nerve is at first confined to one only of the main divisions, and the search for the causative lesion should always commence with a thorough examination of all those parts which are supplied by that division; although in severe cases pain may radiate over the branches of the other main divisions. The commonest example of this condition is the neuralgia which is so often associated with dental caries; here, although the tooth itself may not appear to be painful, the most distressing referred pains may be experienced, and these are at once relieved by treatment directed to the affected tooth.

Many other examples of trigeminal reflexes could be quoted, but it will be sufficient to mention the more common ones. Dealing with the ophthalmic nerve, severe supra-orbital pain is commonly associated with acute glaucoma or with disease of the frontal or ethmoidal air cells. Malignant growths or empyema of the maxillary sinus, or unhealthy conditions about the inferior conchae or the septum of the nose are often found giving rise to "second division" (maxillary) neuralgia and should always be looked for in the absence of dental disease in the maxilla.

It is in the mandibular nerve, however, that some of the most striking reflexes are seen. It is quite common to meet with patients who complain of pain in the ear in whom there is no sign of aural disease, and the cause is usually found in a carious tooth in the mandible.

It may be easily seen, therefore, that infective processes arising in the teeth may manifest themselves in diseases of the eye, ear, or any part of the skull supplied by the fifth nerve, or cause reflex symptoms which may lead to eventual disease of a part.

During the period of eruption of the deciduous, and less frequently the permanent teeth, and later as a result of the various forms of caries and other diseases producing irritation of the terminal filaments of the fifth nerve, we may have most marked reflex symptoms of the eyes. Neurotic manifestations, such as nictitation, mydriasis, myosis, relaxation, and more frequently spasm of accommodation, and even disturbances of the external ocular muscles such as insufficiency, leading in some cases to diplopia, are undoubtedly relieved at times by the removal or treatment of a carious tooth.

I was strongly impressed at one time by a patient who told me that he had been relieved of chronic dyspepsia for which he had been treated during a course of two years by the correct fitting of glasses. The relief continued for a year when, without warning or apparent cause, the symptoms returned. The most critical examination by oculists failed to reveal a change in the refraction, presbyopia, or muscular balance. He was finally referred to me for x-ray examination of his teeth. Five infected teeth were found which, while not giving local symptoms, were definitely devitalized. On the removal of these teeth his gastric symptoms disappeared. This case illustrates most completely the general principle that dental disease and asthenopia resulting from muscular imbalance, two absolutely different conditions, but in both of which the terminal filaments of the fifth nerve are involved, may produce the same group of reflex nervous symptoms in a remote organ.

Iritis, keratitis, phlyctenula, and even glaucoma have been attributed to disease of the teeth; and it is undoubtedly the case that an alveolar abscess, with or without involvement of the maxillary sinus, may give rise to in-

fectious processes in the orbit, lids and eyeball, although such a relation is of rare occurrence.

Let it not be supposed, however, that carious and infected teeth are the sole cause of eye trouble of dental origin. Other dental sources may be impacted or imbedded teeth. These teeth are often regarded as harmless. Clinical experience, however, shows that they are not uncommonly the sources of serious and varied complications. It is my opinion that impacted teeth must be looked upon as misplaced bodies, and as such they are potential sources of trouble. Experience and many reports derived from different observers confirm the conclusion that they are best removed upon the slighest provocation and often even in the absence of disturbing symptoms. Cases of insanity, blindness, tinnitis aurium, trifacial neuralgia, otitis and affections of the eyes have been traced to impacted teeth.

The mechanism of these neuralgic phenomena is obscure. It is probable that, owing to its incorrect position, the nerve supply of the tooth proper is irritated; there may be pressure upon a nerve trunk in the area near the tooth; or the circumferential pressure in the bone surrounding the impacted tooth may cause the pain.

The following cases in point will illustrate the complex neuralgic conditions which may arise as a result of impacted teeth.

Female; 22 years of age; American; no occupation. Family history negative. When I first saw the patient she was suffering with intense pain on both sides of the head. The pain was reflected to the ears, and to the temporal, the parietal, the occipital and the cervical regions. She was also suffering with uncontrollable headaches, spells of vertigo, and blurred vision. She could not concentrate on anything, and was unable to turn her head, very much like one suffering from wry neck. Upon radiographic examination three impacted third molars were found, together with two supernumerary teeth completely buried in the bone. The almost immediate relief following the operation for their removal was truly remarkable. The pain seemed to have entirely abated within forty-eight hours, and the patient could turn her head with freedom and the vertigo and blurred vision had disappeared.

Female. Age 50. Housewife. This patient complained that at certain times during the day the eye muscles became paralyzed. The patient could see but the eyeball refused to move. After treatment by several oculists she was referred to me for x-ray examination of the teeth. The examination disclosed that while there was no infection, yet, imbedded in the palatine bone and lying horizontally was a cuspid tooth. After the tooth was removed the relief was gradual. It is now six months after the operation and the condition has not recurred. Relief is not always gradual but may come at once, depending on the condition.

Let us now refer again to the carious tooth and observe the mechanism by which the tooth can cause reflex symptoms in the eye. The tooth proper consists of three parts; the enamel or the outer covering of the tooth; the dentin or the body of the tooth; and a small cavity inside the dentin which contains arteries, veins, and nerves known as the pulp, or more commonly as the nerve.

Decay or caries of a tooth usually starts burrowing into the enamel, which is a completely dead substance, and therefore no pain is felt. Enamel is the end product of ameloblastic activity. Immediately beneath the enamel, however, there is a conglomeration of nerve endings which form what is known as the dento-enamel junction, these nerve endings being extensions from the pulp and passing through the dentin by means of microscopic tubules known as the dentinal tubules.

After caries has burrowed through the enamel and touches the dento-enamel junction of nerves there is an acute onset of pain. Sometimes this pain is so severe that the whole head is affected. I have had women tell me that they would rather go through the pain of childbirth than have a toothache, although this may be an exaggeration.

After the caries goes through the dento-enamel junction there is a gradual lessening of the pain until it is gone; the degeneration of the nerve has begun and the nerve is no longer irritated. Then for a period its course through the dentin is practically painless. We then have a third and last stage of caries, the stage of pulpal involvement. The nerve is exposed, and we have an acute exacerbation of pain. It is at this time too late to use

any palliative measures and the only thing to do is to extract the tooth or remove the nerve.

We now come to the ingress of bacteria and the consequent sepsis of the tooth, and the formation of an abscess. This is a condition of bacterial involvement, with a gradual spread into other areas and other organs. We now have a focus of infection, and from this focus the eye is a close and frequent victim. At first the eye becomes bloodshot, vessels enlarge, and vision becomes blurred. Toxic products are absorbed by the blood stream and may cause a toxic amblyopia. In the early stages these poisons merely produce aberration of function, and can be cleared up if the focus is removed. Another form of toxic emblyopia may be caused by the use of arsenic in the devitalization of teeth, and also in the treatment of trench mouth. Infection and abscess of the teeth, then, quite frequently cause dysfunction of the eye. Sometimes the tissues swelling around an abscessed tooth in the vicinity of the eye will cause the eye to close. This may also happen after a tooth is removed, but is only of short duration.

Occasionally a temporary paralysis of the eye is caused by the blocking of the infra-orbital nerve with novocain for the extraction of the anterior teeth. Some of the novocain enters the floor of the orbit and causes this temporary paralysis.

In the extraction of upper molar teeth a root will sometimes be forced into the maxillary sinus, and if not immediately removed infection will set in and the floor of the orbit will be eaten away.

The various dental diseases such as Vincent's angina and periodontoclasia, or any suppurative condition of the teeth or oral cavity may cause infection of the eye by continuous or contiguous means.

There are cases in which trigeminal symptoms are present in which the patient is wearing artificial dentures. This may be explained as due to a hidden root or tooth, or on a basis of pressure. The mucous membrane of the palate is very thin. The bony portion of the palate is immediately beneath, and any pressure caused by a plate will cause pressure on either the posterior palatine or anterior palatine nerves, which are branches of the maxillary nerve. Ulceration by a plate that is too loose or too tight may cause an infection of the gum and continuously to the eye.

Dental tumors may cause disease of the eye through infiltration or metastasis.

In summation, many inflammatory diseases of the eye are due to reflex causes, not the least of which are affections of the teeth. This is due to the intimate relationship between the distribution of the fifth nerve and the nerves of the eye. Affections of the eye attributable to diseased teeth occur frequently and quite often the oculist is ignorant of the cause and the disturbing member is allowed to remain.

Dental affections provoke ocular trouble in two ways: by inflammation or irritation of the trigeminal nerve due to dental affection, causing reflex troubles in a manner similar to that in which neuralgia of the fifth nerve or tic-doloreux is produced; and by the extension of an inflammatory process of the dental root toward the maxillary sinus, thence towards the orbit by continuity and contiguity of structure.

The most frequent reflex ocular troubles are pronounced injection of the conjunctiva with epiphora. In children the relation between dental affection and keratitis and phlyctenular conjunctivitis is more noticeable, this being partly explained by irritation of the trigeminal nerve.

Pain in the dental nerves is frequently seen in keratitis and cyclitis, and conversely in dental neuralgia there is found some hyperaesthesia of the nerves of the eye, which makes the contraction of the muscles of accommodation very painful. We know that dental pains and irritation of the trigeminal nerves cause an increase of intra-ocular tension and often produce attacks of acute glaucoma where there is a predisposition to neuralgia.

Children predisposed to toothache quite frequently develop chorea, limited particularly to the orbicularis muscles.

Dental affections produce reflex symptoms on the side of the facial nerve, for example, blepharospasm and chronic contraction of the orbicularis muscles of the eyelids.

It is important when the symptoms seem vague that inquiry be made as to the condition of the teeth in order that all obstacles to a correct diagnosis and treatment may be removed. There are many instances on rec-

ord where the removal of a carious tooth was the means of restoring sight. Not infrequently abscesses develop in the lid as the result of abscesses around the teeth.

Other complications of dental pains are amblyopia and amaurosis. These symptoms disappear after the extraction of the offending teeth. In such cases it is not uncommon to find peripheral contraction of the field of vision, pain in the eyes upon reading, dazzling by intense light, and the appearance of the complementary colors (green, purple, orange) especially when the sight is concentrated.

The contracted field of vision, amblyopia, and amaurosis are explained by the reflex constrictions of the vessels of the retina, these symptoms being analogous to those observed in the affections of the nose.

Wiecherkiewicz reports the following observations: Sometimes after the extraction of a diseased tooth, gangrene of the eyelids and orbital abscesses appear; the inflammation attacking the meninges, the patient dies from meningitis in some cases, proving that thorough asepsis should be observed especially in the extraction of teeth.

Parinaud has demonstrated that in children of five or six years when they are beginning to lose their deciduous teeth, and also in adults, dental lesions not always apparent may be the starting point of osseous or periosteal changes of the inferior orbital border; of fistulae in the lacrymal sac or lower lid, and also periostitis of the nasal canal.

In conclusion may I suggest to the oculist and the physician not to belittle the lowly tooth as a primary cause of ocular lesions. When all other treatments fail, x-ray examination of the teeth is a necessity and not to be dismissed with a shrug as not pertinent. Closer co-operation between physician and dentist will do much to lessen the frequency of ocular pathology.

REPAIRERS OF THE LIVING BELLOWS

EDWARD PODOLSKY, M. D.
Brooklyn, N. Y.

The road to the lungs has taken a long time to travel. It began even before the journey to the center of the heart was undertaken, and it has been only within recent times that any material progress has been made. Surgery on living, moving organs, especially when the movements of these organs are so vitally concerned with maintaining life, is hazardous and difficult. But disease is no respector of organs. It penetrates into the most dangerous regions of the body, and where it leads the healing steel must follow.

Hippocrates was the pioneer in this field of surgery, as he was in so many others. In his treatise on "affections" he described for the first time a method of injecting air into the lungs to overcome certain diseases of the lungs. This was two thousand years ago, but little progress was made for a long time until Dr. James Carson, a Scotch physician, in the eighteenth century, made the suggestion that air might be let into the lung cavity to collapse a tuberculous lung. Dr. Carson carried on many experiments on cats, dogs, rabbits, sheeps, calves and even bullocks. He was able to collapse lungs with air with no ill results.

Unfortunately the pioneer experiments of Dr. Carson were lost sight of. Later, in 1892, Dr. Carlo Forlianini, a famous Italian surgeon, attempted to collapse a tuberculous lung by letting air into the pleural cavity. His work received but scant attention. It remained for Dr. John B. Murphy, one of America's surgical geniuses, to make this method known. In June, 1898, in the city of Denver (always a haven for the victims of the white plague) Dr. Murphy made an address before the members of the American Medical Association in which he described his remarkable work in using air to collapse tuberculous lungs. At this time the newspapers were full of the Spanish-American War, but Dr. Murphy's address was of such importance that it received widespread publicity in the newspapers, and for the first time the world became aware of the fact that surgery had penetrated into new fields.

The work of Dr. Murphy in this new field had been productive of most gratifying results. By letting air into the lung cavity the ailing lung had been squeezed tight and further progress of the disease had been arrested. And yet the first operation on the lungs was a very simple one. It is surprising that so many years had to pass before it was adopted, and it is tragic that so many victims of tu-

berculosis had to die before it became widely popular. Dr. Murphy made no mystery of his new triumph. It was a very simple operation and he described it thus. To the breathless audience at Denver city he described his operation in the following words, now historic in the field of lung surgery:

"It is exceedingly simple. Take an ordinary hypodermic needle, rub the sharp point dull on a brick, cover the butt end of the needle with cotton which serves as a filter of the air that is to enter, then insert the needle into the pleura at the site of election for the production of the pneumothorax. The skin should have been prepared previously by painting it with iodin and puncturing it with a tenotome, as is our custom. The idea now is to let the air enter the pleural cavity through the needle, the cotton filtering it as it enters, thus producing pneumothorax (collapsing the lung). The finger placed over the butt end of the needle serves as a valve. As the patient inspires the finger is lifted off the needle to allow the air to enter, and on expiration the opening is closed with the finger. In that manner you can pump the pleural cavity full of air or to any desired degree of compression. If the patient becomes too cyanotic, or if the breathing is embarrassed, lift the finger from the needle and allow a little air to escape. The procedure is now reversed. Close the end of the needle with the finger on inspiration, and remove the finger on expiration, so that the air will be pumped out instead of in. It is a very simple but an exceptionally valuable procedure for the treatment of pulmonary hemorrhage. The instruments are always at hand. The method can be instituted quickly, so that there will be no time lost. All you need is a blunt needle, a little cotton, and at the most some ice to freeze the skin, but even this is unnecessary, because when speed of operation is necessary, local anesthesia need not be resorted in any of these cases."

In later years complicated machines were invented to pump air into the lung cavity, but the pioneer work of Dr. Murphy and his method of collapsing diseased lungs remains essentially unchanged.

Surgeons were still timid. They still feared to meddle with the lungs. Dr. Murphy's enthusiastic address seemed to have been forgotten. From 1902 to 1912 not many operations to collapse the diseased lung were performed. And yet artificial pneumothorax had been found so useful in stopping bleeding from the lungs. "It strikes terror," said Aretaeus, ancient medical wizard, "to perceive, flowing by the mouth, that blood, whence all of mortal race derive their color, their heat, their nourishment."

In time, interest in lung collapsing by surgical means again began to spread, not only in America but throughout the world. Dr. Lillingston, an English physician, was in a rather advanced stage of tuberculosis. He could find no one in England who would undertake to collapse his diseased lung. It was necessary for him to go to Dr. Holmboe, of the Mesnallian Sanatorium in Norway, where the operation was performed and Dr. Lillingston's life saved. After his recovery he returned to his practice in London and in August 1910, at the Mundeslet Sanatorium, with the assistance of Dr. S. Vere Pearson and Dr. A. Snowden, gave the first treatment to be given in England. Dr. Lillingston preached the gospel of lung collapse in his native country and forever won the gratitude of those whose lungs needed this new treatment.

It required a bout with tuberculosis to set the mind of doctors thinking in this direction. This was the case also with Christian Saugman, a native of Denmark, who had tuberculosis of the lungs and larynx and was temporarily compelled to give up his plans to become a surgeon. He went as a patient to the sanatorium of Herman Brehmer at Goerbersdorf. After his treatment he returned to Denmark and established a sanitarium at Vejlefiord. He brought the life-saving operation of lung collapse to the attention of the surgeons of his native land with happy results.

After the year 1912 the work of Murphy became known to practically every surgeon in the world. Artificial pneumothorax is now one of the major weapons in the surgical treatment of consumption.

There is no doubt that Dr. Carson, the Scotchman, who was the first of the great lung surgeons, was right when he said: "It has long been my opinion that if ever this dis-

ease is to be cured, and it is an event of which I am by no means disposed to despair, it must be accomplished by mechanical means, or in other words by surgical operation."

Merely collapsing the diseased lung is not sufficient in more advanced cases; sometimes more radical means are required. At times it is necessary to remove the phrenic nerve in order to put the lung to rest. At other times the chest wall has to be opened up and the strong bands of adhesive tissue cut with the scalpel to allow the lung to collapse.

In 1913 Dr. C. F. Hoover called attention to the fact that the upper parts of the diseased lung could be put to rest more satisfactorily if the small muscle at the upper part of the chest, the scaleni, were operated upon. This new operation, which has been perfected by Dr. Evarts A. Graham, is the latest advance in the surgical treatment of the consumptive lung.

Actual operation upon the lung itself is a modern innovation. Dr. E. Drennen was among the first to report a case in which he used the cautery to destroy diseased portions of the lungs. This work has been carried forward largely by Dr. Graham, who has reported a series of cases in which the cautery was used to char away diseased lung tissue, and his clinic at the Barnes Hospital, St. Louis, has been the scene of some of the most remarkable lung operations in America. There is the case of a girl of seventeen who one month after her tonsils had been removed began to have pain in the left shoulder. She began to cough and raise up a yellow sputum.

Careful examination revealed the presence of an abscess of the upper portion of the left lung. This clearly called for an operation. Dr. Graham removed about two inches of the fourth and fifth ribs and exposed the upper portion of the left lung. The abscess was then evacuated and the cavity was treated with the cautery. There were no bleeding. The wound was packed, the ends of the ribs were plugged with bone wax. The cough disappeared, and there was a rapid gain in weight. The patient was discharged as completely cured.

A little later a woman of 27 was sent to the Barnes Hospital suffering from headache, chills and fever. She complained of a sharp pain in the right lower portion of the chest. She had lost 55 pounds in the past year and was constantly coughing up foul sputum, often spotted with blood. Dr. Graham diagnosed an abscess of the right lower lobe of the lung. Artificial pneumothorax proved of no value. More radical intervention was called for.

The seventh, eighth and ninth ribs were cut away for a distance of three inches. The abscess was opened and the pus allowed to flow out. The cautery was then applied and a large cavity in the lung was burned out. Following this operation there was a remarkable improvement and a gain in weight following this lung operation.

Another case was that of a man of 40 who had come to the hospital complaining of a cough which had been lasting more than a year. He was in poor health, having lost much weight, and the most annoying symptom was a pain in the chest. Careful examination showed a lung abscess. The seventh and eighth ribs were cut away for a distance of about 4 inches. When a needle was plunged into the diseased area no pus was found. The cautery was then plunged into the diseased lung tissue and a cavity containing very thick pus was found. The roof of the abscess was burned away, the pus evacuated and the cavity cauterized.

Following the operation the man improved rapidly. The cough became less and he began to put on weight. In a short time he was so much improved that he was able to return to his work as an engineer.

These are but a few of the many cases which Dr. Graham has treated for lung abscess with the cautery. It has been his experience as well as that of other lung surgeons that the best treatment for chronic lung suppuration is the complete destruction of the diseased tissue. The cautery seems to be the ideal means of doing this. The operation is not a difficult nor a dangerous one.

Until three years ago no patient had ever recovered after the complete removal of one lung. As a result, cancer of the lung, as well as other serious ailments involving a whole lung, were considered helpless. In the year

1931 Dr. Nissen made the first bold step forward when he removed the entire left lung for bronchiectasis. Since then other lung surgeons have grown bolder and the names of Drs. Windsberg, Haight, Alexander, Mason, Van Allen and Overholt are now famous in surgical history.

Until these pioneers showed the way, cancer of the lungs was considered hopeless. When the x-ray revealed that a cancer was gnawing in some parts of the lung doctors shook their heads sadly, for they realized they could do nothing, and that the patient would be dead in a few weeks or months. But Dr. Graham refused to accept this verdict.

Into his clinic came a physician, forty-eight years of age, who for a period of seven months had had repeated attacks of cough and fever with pain in the left side of the chest. During this time he had lost considerable weight.

Careful examination revealed the fact that he was suffering from cancer of the left lung. The cancer was so situated and in such a state that the only hope for relief was in removing the entire left lung. The patient was a physician and fully realized the seriousness of his ailment. He consented to an operation.

The lung was cut off with an electric cautery knife. All blood vessels were carefully tied off. Radium was implanted into the various parts of the stump of the lung to be sure to destroy any remaining seeds of the cancer. The patient left the operating room in excellent condition, but as an added precaution he was given a transfusion of blood.

The pain in the back began to subside and within three weeks the wounds were solidly healed. The patient's strength gradually increased, his appetite was excellent and he was discharged from the hospital two months after the operation feeling better than he had for many months. In time he regained his former status in health and he is still alive, living with one lung, but now free from the ever-menacing presence of cancer.

This operation was performed in 1933 and the results were so encouraging that surgeons had the courage to regard cancer of the lung as not entirely hopeless. Surgeons in other parts of the country began to feel that removing an entire lung for cancer was justified. Not long after Dr. Graham reported his operation a girl of three was admitted to the Johns Hopkins Hospital complaining of pain in the chest. After much study it was decided that the child had a cancer of the left lung. This was confirmed when a piece of lung tissue was removed and carefully examined under the microscope. An operation was performed in which the entire left lung was removed. The child stood the operation well. In fact, she was up on the fourth day and about the ward as if nothing had happened. She continued to improve and when last seen, one year after the operation, she was entirely well and evidently entirely free from any threat of cancer. This operation was performed by Dr. William Rienhoff, Jr.

This was not the only operation performed by Dr. Reinhoff to remove a cancerous lung. There was also the case of a young woman of 24. She had been complaining of a constantly increasing sensation of pain in the left lower part of the chest at about the level of the fourth rib. She had also coughed up blood at increasing intervals.

Examination via the bronchoscope showed a tumor at the root of the lung. A small portion of the tumor was removed and when examined under the microscope proved to be a cancer. At operation the entire left lung was removed, without any untoward reactions. She began to improve steadily, and at the present time she is the picture of a very active young married woman in excellent health, a condition which would have been impossible before the lung surgeons acquired enough courage to remove an entire lung when involved in serious disease.

The present-day developments in technique in removing entire lungs is one of the greatest accomplishments, perhaps the greatest accomplishment, of the lung surgeon. It removes another formerly hopeless condition from the dwindling list of entirely hopeless diseases.

DELAWARE ACADEMY OF MEDICINE

The library collection now consists of approximately 2,500 volumes and 115 current American and foreign periodicals devoted to medicine, surgery, dentistry and allied subjects. That this material is in steady use is

indicated by the variety of recent requests as mentioned below:

Recurrent phlebitis, pernicious anemia, cancer of the lip, ketogenic diet, induction of labor, cleft palate, chronic ulcerative colitis, appendicitis following tonsilectomy, Parker-Kerr technic in gastro-enterostomy, anatomy of the jaws, tularemia, hydatidform mole, carbon monoxide poisoning, medical ethics, meningococcus meningitis, cancer of the prostate, ventriculin, life of Sir William Osler, intestinal fistula, carcinoma of the orbit.

The library serves the medical and dental professions in the following ways:

REFERENCE SERVICE: Besides telephone requests which can usually be answered immediately, such as an address in the A. M. A. Directory, or checking a reference in an index, etc., this service includes selecting from the library collection the material needed for information on some subject, or for the preparation of a paper, or for the reporting of an interesting case.

Books are loaned for two weeks, and periodicals for one week. Each can be renewed if needed for a longer time. Any material needed for reference and not in the library may be borrowed, within a few days, from local libraries or from medical libraries in other cities through the inter-library loan plan.

BIBLIOGRAPHIC SERVICE: This service includes the compilation of bibliographies for any phase of a subject or for any period of years. These are kept on file and are brought up to date from time to time as the need arises.

SPECIAL INTERESTS SERVICE: Upon request of a member all current periodicals as they are received are checked for articles in whatever field he may be interested, and then a memorandum is sent that such articles have been received and are being held until he has time to look over them.

Some statistics showing the use that has been made of the library during 1935 will be of interest:

Circulation: Books, 61; periodicals, 313.

These figures are exclusive of the use made of material in the Library Reading Rooms.

Persons consulting the library: Members: physicians, 45; dentists, 5; non-members, physicians, 5; dentists, 1; scientific workers, laboratory technicians and others, 16.

Library hours: Daily, 10 a. m. to 5 p. m.; Saturdays, 10 a. m. to 12 noon. Open on evenings of meetings.

New Policy of American Medical Ass'n

A business meeting of the Council on Medical Education and Hospitals was held at the Brown Palace Hotel, Denver, September 15, 1935.

According to the minutes the survey of American medical schools so far completed has revealed certain significant weaknesses; namely,

There is a tendency for medical schools to enlarge their enrollment without a corresponding increase in personnel or instructional facilities.

With a growing appreciation of the necessity for an intimate correlation between clinical and laboratory knowledge, it is evident that this can be obtained only by increasingly close contact between preclinical and clinical departments continuously maintained from the time the student first enters the medical school until he graduates.

The advances of the medical sciences have been and should be independent of any sectarian point of view, and medical education should not be handicapped or directed by a dogmatic attitude toward disease.

For these reasons the Council took the following action:

(*a*) *Resolved,* That in each medical school the number of students should not exceed the number that can be adequately taught with the laboratory, library and clinical facilities available and for whom a sufficiently large and competent teaching staff is provided.

(*b*) *Resolved,* That after July 1, 1938, the Council on Medical Education and Hospitals will no longer publish a list of approved two-year medical schools.

(*c*) *Resolved,* That after July 1, 1938, the Council on Medical Education and Hospitals will no longer carry on its approved list schools of sectarian medicine.—*J. A. M. A.*, Oct. 5, 1935.

EDITORIAL

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Articles sent this Journal for publication and all those read at the annual meetings of the State Society are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Manuscript should be sent in typewritten, double spaced, wide margin, one side only. Manuscript will not be returned unless return postage is forwarded.

The right is reserved to reject material submitted for either editorial or advertising columns. The Publication Committee does not hold itself responsible for views expressed either in editorials or other articles when signed by the author.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscripts or made in sufficient time before publication.

All correspondence regarding editorial matters, articles, book reviews, etc., should be addressed to the Editor. All correspondence regarding advertisements, rates, etc., should be addressed to the Business Manager.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

It is suggested that wherever possible members of the State Society should patronize our advertisers in preference to others as a matter of fair reciprocity.

Subscription price: $2.00 per annum in advance. Single copies, 20 cents. Foreign countries: $2.50 per annum.

VOL. VII NOVEMBER, 1935 No. 11

THE HOME OFFICE

An abstract of the minutes of the September meeting of the Board of Trustees of the American Medical Association contains (*J. A. M. A.*, October 12, 1935) this item:

ENLARGING AND REMODELING OF HEADQUARTERS BUILDING

Consideration was given to the following proposals for relieving the crowded and congested condition in the headquarters office: (1) adding two stories on the present building and building an assembly room and a small meeting room on the roof, resurfacing the building with limestone and doing such repairing and remodeling as would seem to be indicated to put the present building in first-class condition; (2) selecting a new site and erecting thereon a new building which will provide for future growth. Bids and offers on these two proposals were received, and the Board approved the first proposal and authorized the closing of contracts.

So the old lady is to have a lengthening operation, a new dress, and some flowers on her bonnet! Good, very good; but not quite good enough to suit the rank and file of the fellows and members of the A. M. A. We have no doubt that the Board, after comparing the bids on the two proposals, felt obliged to do the temporary thing; they certainly weighed the Association's financial position, both present and prospective; and they have demonstrated in the past their sagacity and business acumen. Hence, the rank and file, willy nilly, must accept the present decision as the best that can be made at the moment.

Even so, certain considerations must be kept in mind. For years widespread criticisms have been heard of the location, setting and style of the headquarters building. When one considers that the American Medical Association is a national institution—the largest scientific body in the world—it is most regrettable that it happens to be in a structure that looks more like a factory than the home of science. True, it is a factory, when one considers that one of America's greatest printing operations takes place therein, and a wonderfully efficient factory at that; and true it is also that the main thing after all is neither brick nor brass but brains, and this old building has had its share of that too; yet the fact remains that visitors to headquarters are quite uniformly disappointed when they do not behold a structure that really signifies the prestige and the dignity of the medical profession.

We are passing through a period of storm and stress, and the end is not yet, nevertheless some plans more permanent than the mere expedient just adopted should be laid. Right now, while realty values are still well below anticipated quotations, is the time to select and acquire a new site. The very least that should be done is to get a long term option on the proper site, so that when "the day" comes we shall be all set to go. Even this may cost a lot of money, but it can be done. Of all organizations, the A. M. A. is the one that should ever bear in mind the dictum of science—the impossible of today is the commonplace of tomorrow.

WOMAN'S AUXILIARY: A. M. A.

President, Mrs. Rogers N. Herbert, Nashville, Tennessee.

President-elect, Mrs. Robert E. Fitzgerald, Wauwatosa, Wisconsin.

Radio Programs

Dramatized for Medicine and Health

"Your Health—Ladies and Gentlemen..."

This toast—through the music—each Tuesday at 5 p. m., Eastern Standard Time (4 p. m., Central Standard Time, 3 p. m., Mountain Time), will introduce the new radio program of the American Medical Association. It will be offered over the blue network of the National Broadcasting Company, beginning October 1, 1935. With the co-operation of the National Broadcasting Company, a new type of program, in vivid dramatic form with incidental music, is being developed, showing:

Medical emergencies and how they are met!

The hero of the medical emergency, the doctor, who is available day and night for the protection and promotion of your health, is the real sponsor of this series of practical and entertaining broadcasts.

Each Tuesday—Blue network, NBC-WJZ.

Program—Nov. 19, Common Household Emergencies, Dr. W. W. Bauer; Nov. 26, Automobile Accidents, Dr. Morris Fishbein; Dec. 3, Tuberculosis, Dr. Morris Fishbein; Dec. 10, Hunting Accidents, Dr. Morris Fishbein; Dec. 17, Animal Diseases in Man, Dr. W. W. Bauer; Dec. 24, Eat, Drink and Be Merry, Dr. W. W. Bauer; Dec. 31, Pneumonia, Dr. W. W. Bauer.

Refer to Hygeia for announcements of later programs.

What the Auxiliary can do to help the A. M. A. radio program:

1. Listen to it, so they will know what it is.
2. If the local NBC station does not take it, ask them to do so.
3. Write letters to the National Broadcasting Co., if they like the program, and to the A. M. A., if they do not, stating why.
4. Tell their friends about it.
5. Tell organizations about it, especially those to whom it may be useful—Women's Clubs, Child Study Groups, Parent-Teachers' Associations, schools.

W. W. BAUER, M. D.

FROM THE NATIONAL PRESIDENT

It has been my privilege to attend a meeting of the Women's Auxiliary to the Kentucky State Medical Association, held in Louisville from September 30, through October 2, and it was most interesting and inspiring to meet such an alive, enthusiastic group.

The Advisory Council of the Kentucky Auxiliary made itself felt as an active institution by announcing that advisory members would outline the Auxiliary programs for the coming year in order that it might include special subjects that they considered of current importance for Auxiliary study. It is gratifying to know that the men are actively interested, not only in supporting, but in directing and assisting the work of the women.

The meeting marked the close of the successful administration of Mrs. J. I. Greenwell and many fine reports were given indicating progressive work well done throughout the past year.

The inaugural address of the new president, Mrs. Luther Bach, exhorted the members to live up to the high standards of the past. She placed emphasis upon Health, Hygeia and Public Relations.

A resolution was passed for the study of health insurance.

It was a pleasure to see Mrs. J. Bonar White, of Atlanta, Georgia, first vice-president of the National, and president of the Southern Medical Auxiliary, who attended the convention. Mrs. White and I had the pleasure of addressing the members at a luncheon meeting the closing day.

In outlining plans for the work of your Auxiliary for the coming year, remember that our program chairman, Mrs. V. E. Holcombe, stands ready to assist you in every way possible. Communications to Mrs. Holcombe should be addressed to 1106 Virginia street, Charleston, W. Va.

Pamphlets and handbooks containing scientific information on nearly every subject which your Auxiliary might care to present may be secured at a nominal cost from Dr. W. W. Bauer, director, Bureau of Public Instruction, American Medical Association, 535 North Dearborn street, Chicago, Illinois. An

especial need is felt, at this time, for pamphlets prepared by the A. M. A. on current subjects, such as "New Forms of Medical Practice," and the "Handbook of Sickness Insurance, State Medicine and the Cost of Medical Care." These pamphlets may be obtained from Dr. R. G. Leland, director, Medical Economics, 535 North Dearborn street, Chicago, Illinois.

Let me reiterate Mrs. Holcombe's message in regard to radio talks. Special radio talks have been prepared by the A. M. A. for five, ten, and fifteen-minute broadcasts, and may be obtained for local use by writing the Bureau of Public Instruction. If planning local broadcasts, bear in mind the dates of the national A. M. A. radio programs to avoid conflicts. The A. M. A. began its radio broadcasts on October 1, to continue every Tuesday thereafter over the blue network of the National Broadcasting Company at 5 p. m., eastern standard time; 4 p. m., central standard time, 3 p. m., mountain time.

Consult your Medical Journal for announcementss of subjects and speakers on the A. M. A. broadcasts. They will be printed weekly in the Journal under the heading, "Association News." The general theme, "Medical Emergencies and How They Are Met," will be presented in dramatized form with incidental music. Publicize these programs as widely as possible by announcing them in your various club activities and by telling the hour of the programs to all with whom you come in contact.

As we begin the records of our new year, let us continue to emphasize the importance of accuracy. It is vital to the National Auxiliary that each state and county organization keep their records accurate and up to date, with names and addresses in alphabetical order. The national treasurer and chairman of finance are working out plans to simplify the present system, and these plans cannot succeed unless based on accurate records of each individual Auxiliary.

The National Auxiliary is dependent for its functioning power upon the co-operation of the state and county members, and their records may be compared with the wheels within a watch that, no matter how small, contribute to a perfect recording of time if perfect themselves, but throw the whole out of balance, if imperfect.

Records for permanent filing are sent to the historian by national, state and county auxiliaries, and from the historian they pass on to the chairman of archives.

As we enter the new year, let us bear in mind the significant part that each Auxiliary member plays in forwarding our great health work, and let us remember that it is only through the closest co-operation and constancy to purpose that we can hope to achieve any measure of success.

MRS. ROGERS N. HERBERT, *President.*

MISCELLANEOUS

Ownership of Roentgenographic Negatives In Michigan

A roentgenographic negative made by a physician as an aid to diagnosis and treatment is, in Michigan, the property of the physician who makes it, unless he has entered into an agreement waiving ownership. The Supreme Court of Michigan rendered this decision September 9, the first rendered by a court of last resort with respect to the ownership of roentgenographic negatives. The decision is binding on all courts in Michigan and it may have persuasive influence on courts in other jurisdictions.

Dr. Burton G. McGarry, of Fenton, Mich., on whose initiative this case was brought to a successful issue, had treated an injured employe of the defendant, the J. A. Mercier Company, at its request. The company refused to pay for his services, basing its refusal in part on the ground that Dr. McGarry refused to deliver to the company, for examination by other physicians, certain roentgenographic negatives of the patient, the cost of which was included in Dr. McGarry's bill. At no time did Dr. McGarry refuse to permit other physicians to examine the negatives while they remained in his clinic. In the circuit court judgment was given in Dr. McGarry's favor, and the company appealed to the Supreme Court of Michigan.

Roentgenographic negatives, said the Supreme Court, are practically meaningless to an ordinary layman. They are as much a part

of the history of the case as any other record made by a physician. They constitute an important part of a physician's clinical record and preserve much of value in his experience. In a malpractice suit they may constitute unimpeachable evidence that fully justifies the treatment of which a patient complains. They are analogous to the microscopic slides of tissues that physicians make to aid them in diagnosis and treatment and which it would hardly be asserted belong to any one other than the physicians by whom they are prepared. Although roentgenographic negatives differ from the negatives of ordinary photographs, the fact that they are the property of the physicians who make them may possibly be inferred from court decisions that have held that, in the absence of express agreements to the contrary, the negatives of photographs belong to photographers, not to the persons for whom the photographs were made. There is every good reason, said the Supreme Court, for holding that roentgenographic negatives are the property of the physician rather than of the patient or other person who employs the physician, even though the patient or such other person is charged with the cost of making them. Dr. McGarry was fully justified in refusing to surrender possession of the negatives he had made. In the absence of an agreement to the contrary, such negatives belong to the physician who makes them incident to treating a patient.

While the phraseology of this decision, literally construed, limits its applicability to cases in which physicians make roentgenographic negatives for their own use, it may reasonably be assumed that such negatives made for a physician, to be interpreted by him, are his property quite as much as if he had made them himself. The decision leaves undetermined the questions whether a patient, personally or through physicians or others employed by him, has the right to inspect a roentgenographic negative while it remains in the possession of the physician who made it, or to require, on payment of the reasonable cost, that prints of the negative be furnished to him. It is, however, a distinct advance toward the settlement of a troublesome and important question.—*Jour. A. M. A.*, Oct. 12, 1935.

Propaganda for Reform

DANGERS OF SLIMMING: Repeatedly and emphatically The Journal has published statements relative to extraordinary hazards involved in the sudden reduction of weight, occasionally described as banting, slimming, thinning, slenderization and in other ways. From the time when dinitrophenol was first proposed as a product with specific favorable attributes for this purpose, The Journal warned against its uncontrolled use, because the product itself is not standardized and because there was hardly sufficient evidence available to say what the ultimate effects of the drug might be. Now it appears that one of the ultimate and disastrous effects is in some persons rapidly developing cataracts. Dinitrophenol now forms the basis of a half dozen or more "patent medicines," including one called "Slim," which has been confiscated under the Food and Drugs Act, as well as others called Nitromet, Dinitrolac, Nitra-Phen, Dinitriso, Formula 281, Dinitrose, Nox-Ben-Ol, Re-Du, Aldinol, Dinitronal, Prescription No. 17, Dinitrole, Tabolin and Redusols. In calling attention to these products Mr. W. G. Campbell, chief of the Federal Food and Drug Administration, says: "It is interesting to note that all the so-called reducing preparations on the market fall into three categories: First, laxatives that deny the body the benefit of its food intake, as the salts, crystals and herb teas; second, obvious frauds that depend for effect upon the stringent diets prescribed as part of the 'treatment,' as 'Syl-Vette' and 'Stardom's Hollywood Diet'; and third, the unquestionably effective but dangerous articles containing thyroid or dinitrophenol, both of which act by speeding up the utilization of food. All of them are unwarranted impositions upon the public, which cannot evaluate claims for the preparations and cannot readily appreciate the harm that may result from careless use of the products." His pronouncement is well warranted by the evidence available. (*J. A. M. A.*, Sept. 7, 1935, p. 804).

CONNELL CANCER CURE—In Kingston, Ont., Dr. Hendry C. Connell, an assistant professor at Queen's University Faculty of Medicine, has announced a new treatment for cancer. It has been heralded by the press as a "cancer

cure." Kingston has turned over part of its municipal hall for the enlargement of his research work and the Department of Health of the Ontario government is collecting cancer tissue from all parts of Canada so that Dr. Connell can use it in making up his preparation. He calls it "Ensol." The background of this performance is said to be some experiments made by Dr. Connell four years ago in an attempt to control cataract. He claims to have developed a substance which would break down cataractous lens tissue without reacting on other proteins. By a similar process, he says he developed an enzyme which would break down cancer tissue. In a letter to The Journal of the American Medical Association, Dr. Connell stated that he had promised to submit a complete statement of his work to the Canadian Medical Association Journal and requested the American Medical Association to send a representative to witness his results. He also submitted a statement alleged to be an account of the method of preparation of his product and an account of his results, which include merely some regression of cancer tissue. The methods pursued by Dr. Connell in promotion of his product reveals procedures more like those of the charlatan than of the scientific investigator. Moreover, his statement of the method of preparation of his product is so incomplete and confused as to make duplication of his work impossible. The results he claims are similar to those which have been obtained with a half dozen other methods. In a few cases there are apparently temporary remissions due to damage of the blood vessels in the tumor. Results just as good occur with the methods used by most of the cancer quacks. There does not appear to be any real evidence that an antitumor enzyme is present in the mixture. Notwithstanding these considerations, newspapers have heralded widely Dr. Connell's claims. Great numbers of sufferers from cancer have been stimulated to false hopes. Time is the true tester of cancer cures—yet newspapers continue to lead cancer sufferers to promoters of cancer cures that have been tested only a few weeks or months. If Dr. Connell really realized his responsibility he would have waited to inform the newspapers until he knew whether or not his "discovery" actually had merit. (*J. A. M. A.*, Oct. 5, 1935, p. 1122).

Standardization and Labeling of Liver and Stomach Preparations for Use in the Treatment of Pernicious Anemia—The following statement concerning the standardization of liver and stomach preparations has been adopted by the Council: Standardization of preparations depends on the reticulocyte response following the uniform daily administration of the product to a patient with pernicious anemia. The test patient should preferably have no complicating infection, diarrhea, marked arteriosclerosis or extensive neurologic changes. The red blood cell count should be between 1,000,000 and 3,000,000 per cubic millimeter and the patient should not be in a spontaneous or induced remission, nor should transfusion have been performed recently. The patient should not have received potent antianemic material or arsenic within a month. Daily reticulocyte counts for one day before and ten days after the test has been started should be made. During days of marked rise of reticulocytes, two counts a day may be necessary to determine the maximal value. The acceptable standard response is set forth in the accompanying table:

Initial Red Blood Count Million per Cu. Mm.	Minimum Reticulocyte Response Per Cent.
1.0	30
1.5	18
2.0	12
2.5	7
3.0	4

The figures given have been obtained by the daily oral administration of material derived from 300 to 400 Gm. of liver, or of 30 to 40 Gm. of desiccated stomach, or by the daily parenteral injection of material derived from 10 to 15 Gm. of liver. The test should be conducted by uniform daily administration for ten days of the least amount of material expected to yield the standard reticulocyte response. Should there be no reticulocyte response or a lesser response than the required minimum, within the ten-day period, that amount of a preparation of established potency known to correspond to the foregoing standards should be administered in uniform

dosage for ten days. The purpose of this control is to establish the reactivity of the patient to known amounts of active principle. In assaying an orally administered product an orally administered standard should be used, and with a product for parenteral use a parenterally administered standard should be employed. The principles underlying the determination of potency of autolyzed liver preparations, stomach tissue extracts or combinations of liver and stomach tissue or extracts are the same. In each case the least daily amount of the preparation administered that is necessary to produce the standard reticulocyte response within the ten-day period should be determined. This daily amount serves as a basis for labeling. Satisfactory responses to similar tests should be obtained in at least three patients.—(*J. A. M. A.*, Oct. 19, 1935, p. 1269).

Principles of Treatment of Septicemia

In order to analyze the principles of treatment, W. J. Merle Scott, Rochester, N. Y. (*Journal A. M. A.*, Oct. 19, 1935), studied the 311 cases diagnosed as septicemia during the last nine years in the Strong Memorial Hospital and the Rochester Municipal Hospital. The first principle in the treatment of septicemia is the eradication of all foci of infection at the earliest feasible moment. The adequate drainage of all collections of pus under pressure is usually as good care as is possible for the vascular bed in the area of primary infection. If phlebitis of one of the major veins is suspected, exploration should be made and, if found, it must be excluded from the circulation by excision or ligation of the vein. Another adjunct in the treatment that was found helpful and has stood the test of time is the use of blood transfusion to bolster the condition of the patient and particularly to replace destroyed blood in those cases in which anemia has developed. This is so widely accepted now that little need be said in its favor except to warn against the mechanical overloading of the circulation by blood transfusion in the later stages of septicemia or when the cardiac reserve is seriously impaired. It does no good and often hastens the end to give large blood transfusions to moribund septicemic patients. As a supportive measure, however, blood transfusion is of real value. The author believes that the development of immune serums specific for the patient's organism and available early in the course of the septicemia is the most hopeful line of progress at present. He suggests that a committee from the American Medical Association and the Canadian Medical Association be appointed to study this complicated problem.

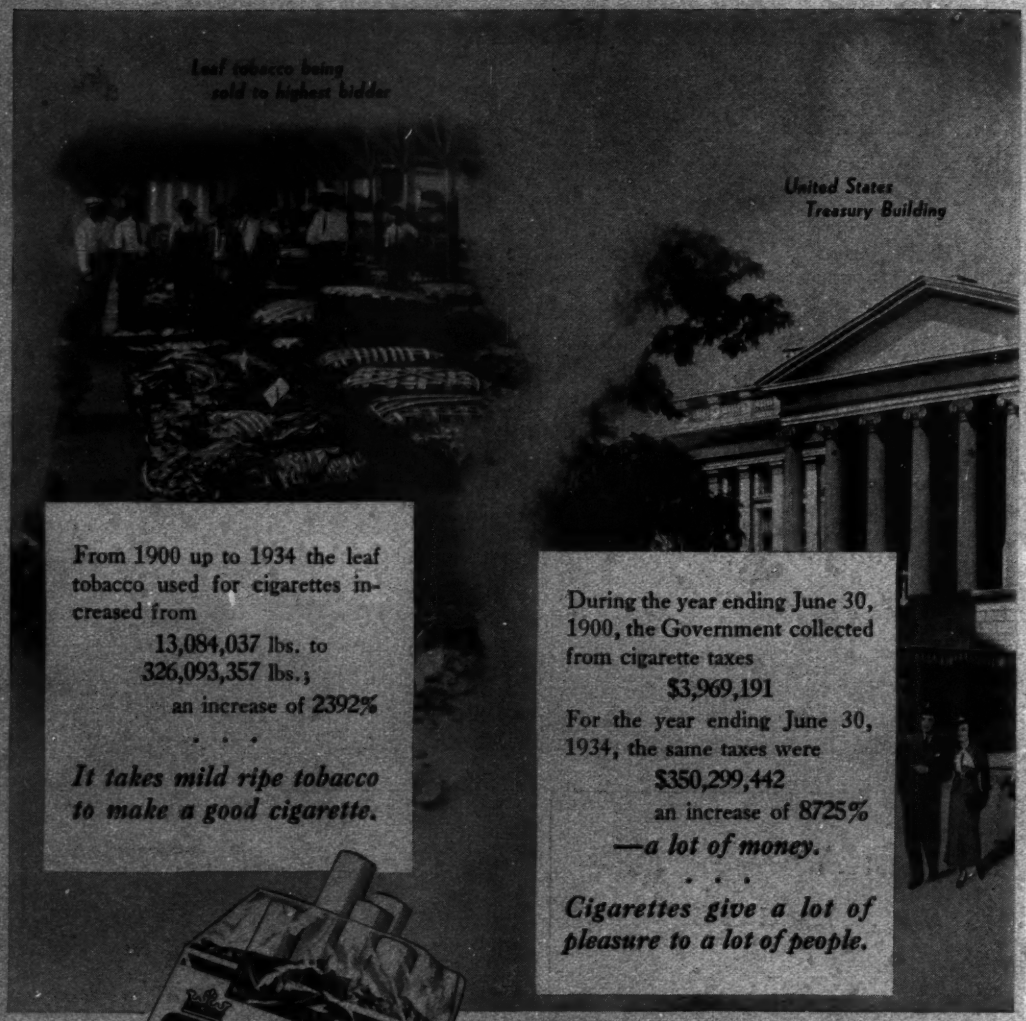
BOOK REVIEWS

Free Medical Care (Socialized Medicine). By E. C. Buehler, Director of Forensics, University of Kansas. Pp. 360. Cloth. Price, $2.00. New York: Noble and Noble, 1935.

This fall and winter the university extension course in forensics provides a debate on this topic: "Resolved, that the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense." In addition to many colleges, this debate will include several hundred high schools. It is most unfortunate that such immature minds are to be engaged in a debate that involves as much knowledge, judgment and experience as does this one; this is surely no subject for children. This book is Volume II of the University Debates Help Book, and is a compilation of articles for and against the proposition. In common with the others of its kind, it devotes twice as much space to the affirmative as it does to the negative, on which side, of course, will be found the medical profession. The public is not supposed to know that it takes twice as much argument for the affirmative to balance the argument for the negative, nor can it detect that much of the affirmative material is sophistry, and specious. The consoling thought, however, is that for each high school that espouses the affirmative there must be one for the negative. In space and proportion this book is unfair, and it leaves an erroneous inference concerning the American College of Surgeons; even so, it is better than some of the others, and does assist the debaters, no matter on which side they fight. But it does incite the question: Why don't somebody come out with an honest-to-goodness neutral book? Maybe it can't be done!

Diet and Die. By Carl Malmberg. Pp. 149. Cloth. Price, $1.50. New York: Hillman-Curl, Inc., 1935.

This small volume is a most entertaining expose of diet fads, faddists and frauds. Packed with a lot of valuable medical information, it is so written that the layman, for whom it is intended, can masticate the subject without incurring mental indigestion. Just the book, doctor, to hand to that plump dowager patient who is about to go haywire.



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But the main reason for the increase is that they are made better—made of better tobaccos; then again the tobaccos are blended—a blend of Domestic and Turkish tobaccos.

Chesterfield is made of mild, ripe tobaccos. Everything that science knows about is used in making it a milder and better-tasting cigarette.

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